

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## REGULATORY CONTACT RECORD

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**Date/Time:** 6/3/04 -- 1100 a.m.

**Site Contact(s):** D. A. Parsons (RISS) -- (DAP-022)  
**Phone:** (303) 966-6458

**Regulatory Contact:** Bruce Wallin, DOE  
**Phone:** (303) 966-3096

**Agency:** DOE

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**Purpose of Contact:** Building 881 Pre-Demolition Surveys

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### Meeting Attendance

D. Parsons, RISS                      B. Wallin, DOE

### Discussion

On 5/12/04 a walkdown of Building 881 was conducted with Bruce Wallin (DOE) and Duane Parsons (RISS) to observe in-process Pre-Demolition Surveys (PDS) of Building 881 areas. An area on the second floor was entered that was posted with PDS Level 1 Isolation Controls. PDS Isolation Controls are established to maintain the integrity of an area that is either undergoing PDS or areas where PDS has already been completed. Level 1 Isolation Controls prohibit the introduction of any radioactive or hazardous materials into the area, and also require a hand and foot frisk prior to entry.

During the walkdown of the second floor Level 1 area, post decontamination surveys were ongoing, as well as decontamination and demolition activities. Decontamination of some hot spots found during the PDS of rooms 266, 267, and 282 was in-progress, and demolition of an interior wall along column line 13 using a Bobcat and jack-hammer attachment was also in-progress.

Concrete dust was being generated and dispersed from the interior wall demolition activity, and consequently a thin layer of dust was being dispersed onto the floor surfaces in the areas where post decontamination surveys were ongoing. Concrete dust, if allowed to accumulate on a surface, can shield contamination from radiological contamination detectors thus reducing the detector efficiency and minimum detectable concentrations (MDC). The effects of dust density thickness on detector efficiency and MDC are

discussed in NUREG-1507 - *Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions*. Based on NUREG-1507, the effects of dust and other surface coatings increase as the density thickness increases. However, based on NUREG-1507, thin layers of dust amounted to small density thickness values and thus did not significantly effect detector efficiency or MDC (NUREG-1507, Tables 5.13, 5.14, 5.15, 5.16 & 5.17).

Because the concrete dust generated from the interior wall demolition activity contributed to a thin layer of dust where post decontamination surveys were being performed, the entire area was re-cleaned to remove all loose dust and resurveyed to PDS standards. All PDS survey results of this area met the PDSP unrestricted release criteria.

The above case of surveying in an area where a thin layer of dust existed was an isolated case. Other 881 areas have been dust-free when PDS surveys were actually performed. The dusty condition described above was an anomaly due to unique wall demolition activities taking place that day and the previous day. Prior to those two days, demolition of walls in areas adjacent to PDS Level 1 Isolation Control areas had not been performed. It should be noted that the walls that were being demolished had already undergone PDS, met PDSP unrestricted release criteria, and were within the PDS Level 1 Isolation Control area.

Because of the concrete dust generated from the above interior wall demolition activity, no further interior wall demolition activities will be performed in or adjacent to areas undergoing radiological post decontamination or PDS surveys. Additionally, increased awareness training of dusty conditions has been performed with the decontamination RCTs and PDS RCTs.

Based on the above discussion, the PDS data that has been obtained to date in Building 881 is representative and valid data.

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**Contact Record Prepared By: D. Parsons**

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**Required Distribution:**

J. Legare, DOE  
C. Deck, K-H  
D. Shelton, K-H  
C. Gilbreath, K-H  
S. Gunderson, CDPHE  
L. Kilpatrick, K-H

R. Leitner, K-H  
J. Mead, K-H  
S. Nesta, K-H  
K. North, K-H  
T. Rehder, USEPA

**Additional Distribution:**

M. Swartz, K-H  
F. Gibbs, K-H  
D. Kruchek, CDPHE  
G. Morgan, DOE  
D. Foss, K-H  
C. Bean, K-H  
R. Worrick, K-H

